

Wilo-IP-Z

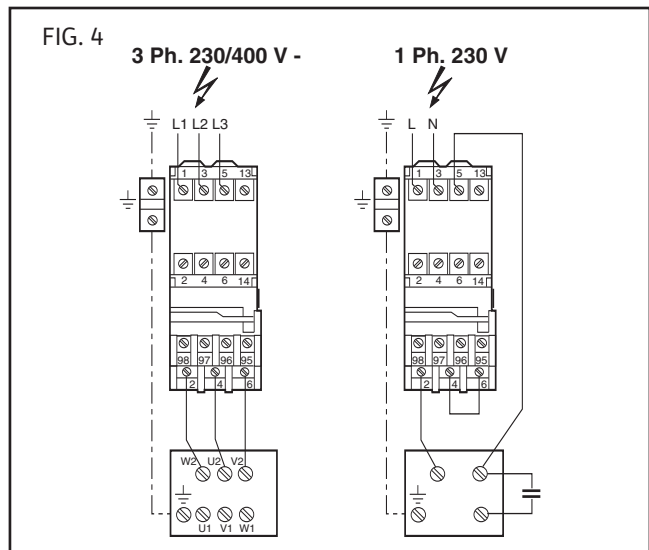
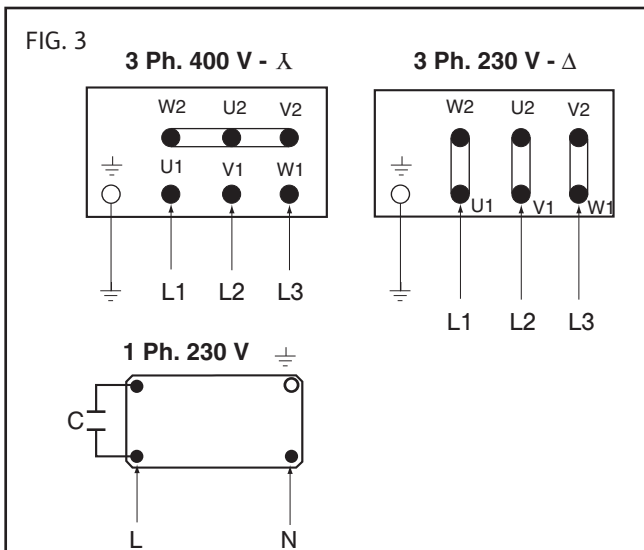
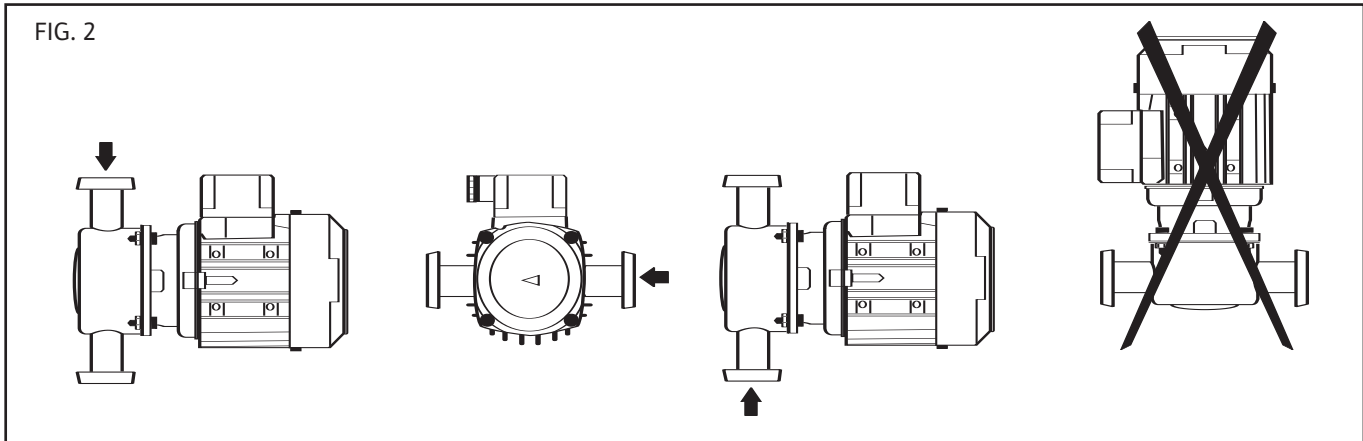
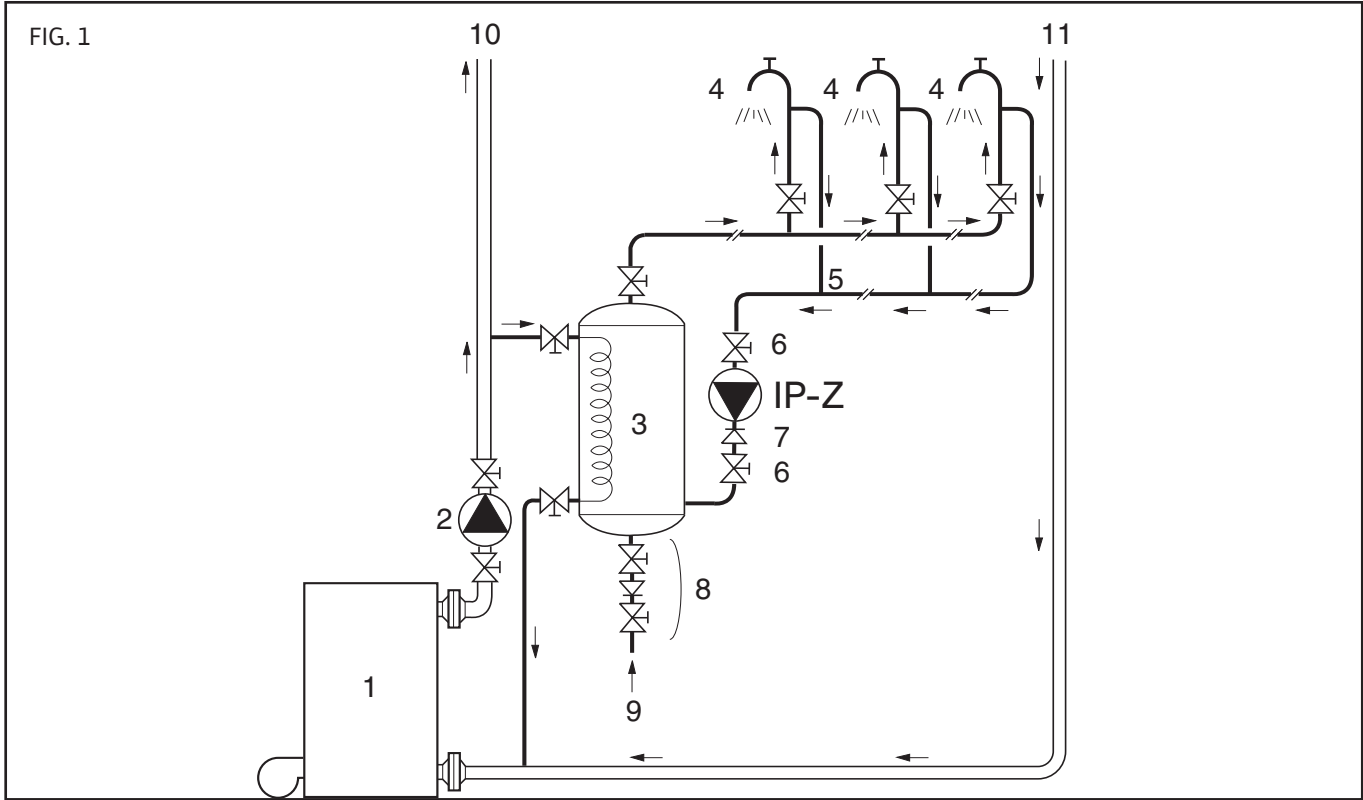
D Einbau- und Betriebsanleitung

GB Installation and Operating Instructions

F Notice de montage et de mise en service

I Istruzioni di montaggio, uso e manutenzione

E Instrucciones de instalación y funcionamiento



1. General

1.1 Applications

For the circulation of water in domestic hot water distribution systems, low pressure heating systems, air conditioning systems and all systems for the pumping of hot or cold water without abrasive or aggressive particles in suspension.

1.2 Technical characteristics

- Max. service pressure : 10 bars
- Temperature range for heating water to VDI 2035 or chilled water domestic water : - 8°C to + 110°C
- in short-term operation (2h) : to + 110°C
- Frequency : 50 Hz
- Speed IP-Z 25/2 : 1450 rpm
IP-Z 25/6 : 2850 rpm
- Winding single-phase : 230 V
3-phase : 230 - 400 V
- Insulation class : F
- Protection index : IP 54 (terminal box)
: IP 44 (motor)

2. Safety

These instructions contain important information, which must be followed when installing and operating the pump. These operating instructions must therefore be read before assembly and commissioning by the installer and the responsible operator.

Both the general safety instructions in the "Safety precautions" section and those in subsequent sections indicated by danger symbols should be carefully observed.

2.1 Indications used in the operating instructions

Safety precautions in these operating instructions, which, if not followed, could cause personal injury, are indicated by the symbol:



when warning of electrical voltage with



The following symbol is used to indicate that by ignoring the relevant safety instructions, damage could be caused to the pump/machinery and its functions:

ATTENTION!

2.2 Staff training

The personnel installing the pump must have the appropriate qualifications for this work.

2.3 Risks incurred by failure to comply with the safety precautions

Failure to comply with the safety precautions could result in personal injury or damage to the pump or installation. Failure to comply with the safety precautions could also invalidate any claim for damages.

In particular, lack of care may lead to problems such as:

- n Failure of important pump or machinery functions,
- n Injury resulting from electrical or mechanical factors.

2.4 Safety precautions for the operator

Existing regulations for the prevention of accidents must be followed.

Dangers caused by electrical energy must be excluded. Directives conforming to the local or general regulations [such as

IEC, VDE etc.] and the local electricity supply companies are to be observed.

2.5 Safety information for inspection and assembly

The operator is responsible for ensuring that inspection and assembly are carried out by authorised and qualified personnel who have studied the operating instructions closely.

Work on the pump/machinery should only be carried out when the machine has been brought to a standstill.

2.6 Unauthorised modification and manufacture of spare parts

Alterations to the pump or installation may only be carried out with the manufacturer's consent. The use of original spare parts and accessories authorised by the manufacturer will ensure safety. The use of any other parts may invalidate claims invoking the liability of the manufacturer for any consequences.

2.7 Unauthorised operating methods

The operating safety of the pump or installation supplied can only be guaranteed if it is used in accordance with paragraph 1 of the operating instructions. The limiting values given in the catalogue or data sheet must neither be exceeded nor allowed to fall below those specified.

3. Transport and storage

As soon as the equipment is received, check that it has not been damaged during transport. If any defect is noted, all the necessary steps must be taken with regard to the carrier.

ATTENTION! If the equipment delivered is to be installed some time later, store it in a dry place and protect it against impacts and all external effects (humidity, freezing conditions, etc.).

4. Products and Accessories

4.1 Pump

- Single-stage centrifugal pump.
- Volute casing with „in-line“ suction and discharge ports G 1 1/2" (for direct fitting onto piping).
- The motor is ventilated at extended stainless steel shaft end. Tight sealing on shaft feed-through is ensured by a self-lubricated, maintenance-free mechanical seal.

4.2 Accessories (optional)

- Adaptation union G 1 1/2" x G 2"
- Motor protection circuit breaker

5. Installation (See Fig. 1)

- 1 - Boiler
- 2 - Heating pump
- 3 - Domestic hot water preparation unit
- 4 - Hot water distribution stations
- 5 - Domestic hot water system (loop)
- 6 - Isolating valve
- 7 - Check valve
- 8 - Safety set (relief valve + gate valve)
- 9 - Cold water supply for preparation unit
- 10 - Heating outward system
- 11 - Heating return system

* Max. temperature in system: 65°C

5.1 Fitting

- The standard IP-Z pump is designed for use on a return system. It is supplied with the suction port on top (indicated by an arrow on the appliance's casing) (See Fig. 2).
- In the case of installation on a heating system or air conditioning system (suction port facing downwards), the

pump casing should be swivelled on the spacer through an angle of 180° (or 90°) (See Fig. 2).

The centreline of the electric motor must always be horizontal.

5.2 Hydraulic connections

- Direct connection to pipe with threaded fitting by means of unions (not supplied).
- Position the pump on a vertical or horizontal pipe and provide for isolating valves on either side to make dismantling easier.
- A check valve should be installed on the discharge side for domestic hot water distribution applications.
- Check that the pipes are correctly aligned to avoid any clamping on the appliance.

5.3 Electrical connections



Electrical connections and checks must be made by an approved electrician in compliance with the applicable local standards.

Check that the terminal box is accessible and protected from any hazards due to water (leaks, splashes or condensation, etc.).

- Make sure that the characteristics of the electric current and the available voltage comply with the information marked on the appliance's identification plate.
- Use a cable that complies with the applicable local standards.
- Protection of the motor by circuit breaker (See Fig. 4).



Any incorrect electrical connection will lead to damage to the motor. The cable must be protected from any dampness and must never come into contact with the piping or with the pump.

- **SINGLE-PHASE:** Cable 3 x 0.75 mm² (max. 3 x 2.5 mm²) (2 phases + earth)
- **3-PHASE:** Cable 4 x 0.75 mm² (max. 4 x 2.5 mm²) (3 phases + earth)

Connection to mains (See Fig. 3 Motor terminal box and 4 Motor protection circuit breaker)

DO NOT FORGET TO EARTH.

8. Operating failures



Prior to maintenance or repair work, turn off the pump and ensure that it is not turned on by unauthorised personnel.

6. Starting up

6.1 Filling - Degassing

ATTENTION! Never operate the pump when dry, even for a short time.

- Open the isolating valves on the suction and discharge sides of the pump. Completely fill the system.
- Bleed to remove air.

6.2 Check on direction of rotation

- Check the direction of rotation of pumps equipped with a 3-phase motor by supplying a short pulse of electric power. The direction of rotation must comply with the information specified on the identification plate. If it does not, invert the two phase wires in the motor terminal block.
- Check the current draw.
- Adjust the magnetothermal protection device to the current specified on the motor identification plate.

7. Maintenance

No specific maintenance is required during operation.

Keep the pump scrupulously clean.

The bearings are life-lubricated in accordance with the motor's service life.

During the initial mechanical seal bedding period, there may be slight leaks. These leaks will disappear after a few hours in operation.

After shutdown for a long period, check that:

- the circuit and the pump are correctly filled,
- air bleeding operations have been carried out,
- the shaft rotates freely without any friction points.

ATTENTION! If the mechanical packing is replaced, it is mandatory to disconnect the whole assembly from the piping **BEFORE** disassembling the motor from the hydraulic casing.

Failures	Causes	Remedial action
The pump will not start	a) The motor will not start b) The motor has „burned out“	a) Check that electric current is present on the motor terminals b) Replace it
No output from pump	a) Internal components are blocked by foreign bodies b) Pump turns in the wrong direction c) Valve closed in discharge side	a) Dismantle the pump and clean it b) Invert the direction of rotation by inverting the two wires on the motor terminal block (if 3-phases) c) Check and open the valve
Pump output is too low (or pressure is insufficient)	a) Valve partly open on discharge side b) Considerable head losses c) Suction pipe partially blocked or clogged	a) Open the valve gradually and completely until the pressure is stabilized b) Check the head loss again. (Replace the pipes with other pipes with larger diameter) c) Check the pipe. Clean
Oberheating of motor	a) Rotation difficult b) Incorrect supply voltage	a) Check that it is possible to turn the motor by hand (screw or priming slot on back of motor. b) Check that the voltage on the motor terminals is within the standard tolerances

If the fault cannot be remedied, please contact your local plumbing and heating specialist or WILO customer services.

Wilo – International (Subsidiaries)

Argentina

WILO SALMSON
 Argentina S.A.
 C1295ABI Ciudad
 Autónoma de Buenos Aires
 T + 54 11 4361 5929
 info@salmson.com.ar

Austria

WILO Pumpen
 Österreich GmbH
 2351 Wiener Neudorf
 T +43 507 507-0
 office@wilo.at

Azerbaijan

WILO Caspian LLC
 1014 Baku
 T +994 12 5962372
 info@wilo.az

Belarus

WILO Bel OOO
 220035 Minsk
 T +375 17 2535363
 wilo@wilo.by

Belgium

WILO SA/NV
 1083 Ganshoren
 T +32 2 4823333
 info@wilo.be

Bulgaria

WILO Bulgaria Ltd.
 1125 Sofia
 T +359 2 9701970
 info@wilo.bg

Canada

WILO Canada Inc.
 Calgary, Alberta T2A 5L4
 T +1 403 2769456
 bill.lowe@wilo-na.com

China

WILO China Ltd.
 101300 Beijing
 T +86 10 58041888
 wiloobj@wilo.com.cn

Croatia

WILO Hrvatska d.o.o.
 10090 Zagreb
 T +38 51 3430914
 wilo-hrvatska@wilo.hr

Czech Republic

WILO Praha s.r.o.
 25101 Cestlice
 T +420 234 098711
 info@wilo.cz

Denmark

WILO Danmark A/S
 2690 Karlslunde
 T +45 70 253312
 wilo@wilo.dk

Estonia

WILO Eesti OÜ
 12618 Tallinn
 T +372 6 509780
 info@wilo.ee

Finland

WILO Finland OY
 02330 Espoo
 T +358 207401540
 wilo@wilo.fi

France

WILO S.A.S.
 78390 Bois d'Arcy
 T +33 1 30050930
 info@wilo.fr

Great Britain

WILO (U.K.) Ltd.
 DE14 2WJ Burton-
 Upon-Trent
 T +44 1283 523000
 sales@wilo.co.uk

Greece

WILO Hellas AG
 14569 Anixi (Attika)
 T +302 10 6248300
 wilo.info@wilo.gr

Hungary

WILO Magyarország Kft
 2045 Törökbálint
 (Budapest)
 T +36 23 889500
 wilo@wilo.hu

India

WILO India Mather and
 Platt Pumps Ltd.
 Pune 411019
 T +91 20 27442100
 service@
 pun.matherplatt.co.in

Indonesia

WILO Pumps Indonesia
 Jakarta Selatan 12140
 T +62 21 7247676
 citrawilo@cbn.net.id

Ireland

WILO Engineering Ltd.
 Limerick
 T +353 61 227566
 sales@wilo.ie

Italy

WILO Italia s.r.l.
 20068 Peschiera
 Borromeo (Milano)
 T +39 25538351
 wilo.italia@wilo.it

Kazakhstan

WILO Central Asia
 050002 Almaty
 T +7 727 2785961
 info@wilo.kz

Korea

WILO Pumps Ltd.
 621-807 Gimhae
 Gyeongnam
 T +82 55 3405890
 wilo@wilo.co.kr

Latvia

WILO Balti SIA
 1019 Riga
 T +371 7 145229
 mail@wilo.lv

Lebanon

WILO SALMSON
 Lebanon
 12022030 El Metn
 T +961 4 722280
 wsl@cyberia.net.lb

Lithuania

WILO Lietuva UAB
 03202 Vilnius
 T +370 5 2136495
 mail@wilo.lt

The Netherlands

WILO Nederland b.v.
 1551 NA Westzaan
 T +31 88 9456 000
 info@wilo.nl

Norway

WILO Norge AS
 0975 Oslo
 T +47 22 804570
 wilo@wilo.no

Poland

WILO Polska Sp. z o.o.
 05-090 Raszyn
 T +48 22 7026161
 wilo@wilo.pl

Portugal

Bombas Wilo-Salmson
 Portugal Lda.
 4050-040 Porto
 T +351 22 2080350
 bombas@wilo.pt

Romania

WILO Romania s.r.l.
 077040 Com. Chiajna
 Jud. Ilfov
 T +40 21 3170164
 wilo@wilo.ro

Russia

WILO Rus ooo
 123592 Moscow
 T +7 495 7810690
 wilo@wilo.ru

Saudi Arabia

WILO ME - Riyadh
 Riyadh 11465
 T +966 1 4624430
 wshoula@wataniand.com

Serbia and Montenegro

WILO Beograd d.o.o.
 11000 Beograd
 T +381 11 2851278
 office@wilo.co.yu

Slovakia

WILO Slovakia s.r.o.
 83106 Bratislava
 T +421 2 33014511
 wilo@wilo.sk

Slovenia

WILO Adriatic d.o.o.
 1000 Ljubljana
 T +386 1 5838130
 wilo.adriatic@wilo.si

South Africa

Salmson South Africa
 1610 Edenvale
 T +27 11 6082780
 errol.cornelius@
 salmson.co.za

Spain

WILO Ibérica S.A.
 28806 Alcalá de Henares
 (Madrid)
 T +34 91 8797100
 wilo.iberica@wilo.es

Sweden

WILO Sverige AB
 35246 Växjö
 T +46 470 727600
 wilo@wilo.se

Switzerland

EMB Pumpen AG
 4310 Rheinfelden
 T +41 61 83680-20
 info@emb-pumpen.ch

Taiwan

WILO-EMU Taiwan Co. Ltd.
 110 Taipei
 T +886 227 391655
 nelson.wu@
 wiloemutaiwan.com.tw

Turkey

WILO Pompa Sistemleri
 San. ve Tic. A.Ş.
 34888 Istanbul
 T +90 216 6610211
 wilo@wilo.com.tr

Ukraine

WILO Ukraina t.o.w.
 01033 Kiev
 T +38 044 2011870
 wilo@wilo.ua

United Arab Emirates

WILO Middle East FZE
 Jebel Ali Free Zone -
 South - Dubai
 T +971 4 880 91 77
 info@wilo.ae

USA

WILO USA LLC
 1290 N 25th Ave
 Melrose Park, Illinois
 60160
 T +1 866 945 6872
 info@wilo-usa.com

Vietnam

WILO Vietnam Co Ltd.
 Ho Chi Minh City, Vietnam
 T +84 8 38109975
 nkminh@wilo.vn

Wilo – International (Representation offices)

Algeria

Bad Ezzouar, Dar El Beida
 T +213 21 247979
 chabane.hamdad@salmson.fr

Armenia

0001 Yerevan
 T +374 10 544336
 info@wilo.am

Bosnia and Herzegovina

71000 Sarajevo
 T +387 33 714510
 zeljko.cvjetkovic@wilo.ba

Georgia

0179 Tbilisi
 T +995 32 306375
 info@wilo.ge

Macedonia

1000 Skopje
 T +389 2 3122058
 valerij.vojneski@wilo.com.mk

Mexico

07300 Mexico
 T +52 55 55863209
 roberto.valenzuela@wilo.com.mx

Moldova

2012 Chisinau
 T +373 22 2323501
 sergiu.zagurean@wilo.md

Rep. Mongolia

Ulaanbaatar
 T +976 11 314843
 wilo@magicnet.mn

Tajikistan

734025 Dushanbe
 T +992 37 2312354
 info@wilo.tj

Turkmenistan

744000 Ashgabad
 T +993 12 345838
 kerim.kertiyev@wilo-tm.info

Uzbekistan

100015 Tashkent
 T +998 71 1206774
 info@wilo.uz

March 2011



WILO SE
Nortkirchenstraße 100
44263 Dortmund
Germany
T 0231 4102-0
F 0231 4102-7363
wilo@wilo.com
www.wilo.de

Wilo-Vertriebsbüros in Deutschland

Nord

WILO SE
Vertriebsbüro Hamburg
Beim Strohhouse 27
20097 Hamburg
T 040 5559490
F 040 55594949
hamburg.anfragen@wilo.com

Ost

WILO SE
Vertriebsbüro Dresden
Frankenring 8
01723 Kesselsdorf
T 035204 7050
F 035204 70570
dresden.anfragen@wilo.com

Süd-West

WILO SE
Vertriebsbüro Stuttgart
Hertichstraße 10
71229 Leonberg
T 07152 94710
F 07152 947141
stuttgart.anfragen@wilo.com

West

WILO SE
Vertriebsbüro Düsseldorf
Westring 19
40721 Hilden
T 02103 90920
F 02103 909215
duesseldorf.anfragen@wilo.com

Nord-Ost

WILO SE
Vertriebsbüro Berlin
Juliusstraße 52-53
12051 Berlin-Neukölln
T 030 6289370
F 030 62893770
berlin.anfragen@wilo.com

Süd-Ost

WILO SE
Vertriebsbüro München
Adams-Lehmann-Straße 44
80797 München
T 089 4200090
F 089 42000944
muenchen.anfragen@wilo.com

Mitte

WILO SE
Vertriebsbüro Frankfurt
An den drei Hasen 31
61440 Oberursel/Ts.
T 06171 70460
F 06171 704665
frankfurt.anfragen@wilo.com

Kompetenz-Team Gebäudetechnik

WILO SE
Nortkirchenstraße 100
44263 Dortmund
T 0231 4102-7516
T 01805 R•U•F•W•I•L•O*
7•8•3•9•4•5•6
F 0231 4102-7666

Erreichbar Mo-Fr von 7-18 Uhr.

- Antworten auf
 - Produkt- und Anwendungsfragen
 - Liefertermine und Lieferzeiten
- Informationen über Ansprechpartner vor Ort
- Versand von Informationsunterlagen

Kompetenz-Team Kommune Bau + Bergbau

WILO SE, Werk Hof
Heimgartenstraße 1-3
95030 Hof
T 09281 974-550
F 09281 974-551

Werkkundendienst Gebäudetechnik Kommune Bau + Bergbau Industrie

WILO SE
Nortkirchenstraße 100
44263 Dortmund
T 0231 4102-7900
T 01805 W•I•L•O•K•D*
9•4•5•6•5•3
F 0231 4102-7126
kundendienst@wilo.com

Täglich 7-18 Uhr erreichbar
24 Stunden Technische
Notfallunterstützung

- Kundendienst-Anforderung
- Werksreparaturen
- Ersatzteilfragen
- Inbetriebnahme
- Inspektion
- Technische Service-Beratung
- Qualitätsanalyse

* 0,14 €/Min. aus dem Festnetz,
Mobilfunk max. 0,42 €/Min.

Wilo-International

Österreich

Zentrale Wiener Neudorf:
Wilo Pumpen Österreich GmbH
Max Weishaupt Straße 1
A-2351 Wiener Neudorf
T +43 507 507-0
F +43 507 507-15

Vertriebsbüro Salzburg:
Gnigler Straße 56
5020 Salzburg
T +43 507 507-13
F +43 507 507-15

Vertriebsbüro Oberösterreich:
Trattnachtalstraße 7
4710 Grieskirchen
T +43 507 507-26
F +43 507 507-15

Schweiz

EMB Pumpen AG
Gerstenweg 7
4310 Rheinfelden
T +41 61 83680-20
F +41 61 83680-21

Standorte weiterer Tochtergesellschaften

Argentinien, Aserbajdschan,
Belarus, Belgien, Bulgarien,
China, Dänemark, Estland,
Finnland, Frankreich,
Griechenland, Großbritannien,
Indien, Indonesien, Irland,
Italien, Kanada, Kasachstan,
Korea, Kroatien, Lettland,
Libanon, Litauen,
Niederlande, Norwegen,
Polen, Portugal, Rumänien,
Russland, Saudi-Arabien,
Schweden, Serbien und
Montenegro, Slowakei,
Slowenien, Spanien,
Südafrika, Taiwan,
Tschechien, Türkei, Ukraine,
Ungarn, USA, Vereinigte
Arabische Emirate, Vietnam

Die Adressen finden Sie unter
www.wilo.com.

Stand August 2010